## Search Strategy

FILE 'USPATFULL' ENTERED AT 20:29:04 ON 28 DEC 2001

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| L1 | 14419 | S | (AVIAN OR POULTRY) |
| L2 | 256 | S | L1 AND REOVIRUS? |
| L3 | 233 | S | L2 AND VACCIN? |
| L4 | 53 | S | L3 AND (AVIAN (8W) REOVIRUS?) |
| L5 | 17 | S | L4 AND REOVIR?/CLM |
| L6 | 15 | S | L5 AND (AVIAN/CLM OR POULTRY/CLM) |
| L7 | 1 | S | L2 AND ERS |
| L8 | 14 | S | L2 AND 2177 |
| L9 | 13 | S | L8 NOT L7 |

L6 ANSWER 15 OF 15 USPATFULL
85:73691 ***Avian*** proventriculitis ***vaccine***
Page, Robert K., Winder, GA, United States
Villegas, Pedro, Athens, GA, United States
Eidson, Caswell S., Athens, GA, United States
Gaudry, Daniel, Athens, GA, United States
Research Foundation, Athens, GA, United States (U.S. corporation)
**US 4559229** 19851217
APPLICATION: US 1982-400024 19820720 (6)
DOCUMENT TYPE: Utility; Granted.

AB A process of preparing a ***vaccine*** capable of protecting ***poultry*** against ***avian*** proventriculitis which comprises: separating proventriculitis ***reovirus*** from ***reovirus*** -carrying tissue of a ***poultry*** animal diseased with proventriculitis; inoculating a cell culture capable of sustaining the growth and replication of the ***reovirus*** ; extracting the virus from cellular and nonviral components, and rendering the ***reovirus*** into a form suitable for administration to ***poultry*** , yields a ***vaccine*** and an immunization method.

CLM What is claimed is:
1. A ***vaccine*** capable of protecting ***poultry*** against proventriculitis, which comprises: an antigenic material capable of inducing in said ***poultry*** an immune response against ***avian*** proventriculitis ***reovirus*** , wherein said antigenic material is selected from the group consisting of live, attenuated, and inactivated proventriculitis ***reovirus*** and immunologically active subcomponents thereof, wherein said ***reovirus*** has the identifying characteristics of ATCC No. VR2040 or a progeny thereof, and a pharmacologically acceptable carrier.

2. The ***vaccine*** of claim 1 wherein said carrier is a biocompatible oil.

3. The ***vaccine*** of claim 1 wherein said ***reovirus*** is inactivated with propiolactone.

4. The ***vaccine*** of claim 1 wherein said ***reovirus*** is attenuated by serial passage.

5. The ***vaccine*** of claim 1 in unit dosage form.

6. A method of protecting a ***poultry*** animal against proventriculitis which comprises: ***vaccinating*** said ***poultry*** animal with the ***avian*** proventriculitis ***vaccine*** of claim 1, in an amount sufficient to produce an immune response against proventriculitis ***reovirus*** in said animal.

7. The method of claim 6 wherein said ***vaccine*** comprises antigenic material selected from the group consisting of live, attenuated and inactivated proventriculitis ***reovirus*** .

8. The method of claim 6 wherein said carrier is a biocompatible oil.

9. The method of claim 7 wherein said ***reovirus*** is inactivated with propiolactone.

10. The method of claim 7 wherein said ***reovirus*** is attenuated by serial passage.

11. The method of claim 6 wherein said ***poultry*** animal is a reproductive hen.

12. ***Avian*** proventriculitis ***reovirus*** having the identifying characteristics of ATCC No. VR2040 or a progeny thereof.

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96:50646 ***Reovirus*** strain 2177 and ***vaccine*** containing same.
Rosenberger, John K., Landenberg, PA, United States
Roessler, Donald E., Lewes, DE, United States
Hein, Rudolf G., Georgetown, DE, United States
Akzo Nobel, N.V., Arnhem, Netherlands (non-U.S. corporation)
**US 5525342** 19960611
APPLICATION: US 1994-247174 19940520 (8)
DOCUMENT TYPE: Utility; Granted.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed herein is the isolation of a relatively non-pathogenic ***reovirus*** , designated strain 2177, and ***vaccines*** comprising this strain.

CLM What is claimed is:
1. An isolated ***avian*** ***reovirus*** having all of the identifying characteristics of ***reovirus*** strain 2177 which is deposited at the ATCC under accession number VR 2449.

2. A ***vaccine*** comprising the ***avian*** ***reovirus*** of claim 1.

3. A combination ***vaccine*** , comprising the ***avian*** ***reovirus*** of claim 1 and at least one Marek's Disease ***vaccine*** .

4. The combination ***vaccine*** of claim 3, wherein the at least one Marek's Disease ***vaccine*** is selected from the group consisting of SB-1, HVT and CVI 988.

5. The combination ***vaccine*** of claim 3, wherein the at least one Marek's Disease ***vaccine*** is selected from the group consisting of SB-1 and HVT.

6. A combination ***vaccine*** , comprising the ***avian*** ***reovirus*** of claim 1 and an Infectious Bursal Disease Virus ***vaccine*** .

7. A combination ***vaccine*** , comprising the ***avian*** ***reovirus*** of claim 1 together with at least one Marek's Disease ***vaccine*** and at least one Infectious Bursal Disease Virus ***vaccine*** .

8. A combination ***vaccine*** , comprising the ***avian*** ***reovirus*** of claim 1, Newcastle Disease Virus ***vaccine*** , Infectious Bronchitis Virus ***vaccine*** , Marek's Disease ***vaccine*** and at least one Infectious Bursal Disease Virus ***vaccine*** .

9. A combination ***vaccine*** , comprising the ***avian*** ***reovirus*** of claim 1, together with a ***vaccine*** or ***vaccines*** of one or more viruses selected from the group consisting of ***Avian*** Encephalomyelitis, Fowl Pox and Chicken

Anemia Agent.

10. A method of immunizing chickens against ***avian*** ***reovirus*** infection, comprising administering an effective amount of a ***vaccine*** comprising the ***reovirus*** of claim 1.

11. The method of claim 10, wherein the ***vaccine*** further comprises an effective amount of at least one Marek's Disease ***vaccine*** .

12. The method of claim 10, wherein the at least one Marek's Disease ***vaccine*** is selected from the group consisting of SB-1, HVT and CVI 988.

13. The method of claim 12, wherein the at least one Marek's Disease ***vaccine*** is selected from the group consisting of SB-1 and HVT.

14. The method of claim 10, wherein the ***vaccine*** further comprises an effective amount of an Infectious Bursal Disease Virus ***vaccine*** .

15. The method of claim 10, wherein the ***vaccine*** further comprises at least one Marek's Disease ***vaccine*** and at least one Infectious Bursal Disease Virus ***vaccine*** .

16. The method of claim 10, wherein the ***vaccine*** further comprises Newcastle Disease Virus ***vaccine*** and Infectious Bronchitis Virus ***vaccine*** .

17. The method of claim 10, wherein the ***vaccine*** further comprises a ***vaccine*** or ***vaccines*** of one or more viruses selected from the group consisting of ***Avian*** Encephalomyelitis, Fowl Pox and Chicken Anemia Agent.

2002447170 Document Number: 22192655. PubMed ID: 12206313. Sequence analysis of the S3 gene from a turkey reovirus. Kapczynski Darrell R; Sellers Holly S; Simmons Valrie; Schultz-Cherry Stacey. (Agricultural Research Service, United States Department of Agriculture, Athens, Georgia 30605, USA.. dkapczynski@seprl.usda.gov) . VIRUS GENES, (2002) 25 (1) 95-100. Journal code: 8803967. ISSN: 0920-8569. Pub. country: United States. Language: English.

AB The deduced sigma-2 protein sequence from the S3 gene segment of a novel turkey reovirus, designated NC98, isolated from the bursa of birds exhibiting poult enteritis and mortality syndrome was determined. The isolate, serologically distinct from other avian reoviruses, was isolated in turkey embryo kidney cells and RNA was purified for cDNA synthesis. Oligonucleotide primers were designed based on conserved avian S3 nucleotide sequence data. The NC98 S3 open reading frame comprised 1,101 base pairs and encoded 366 amino acids with a predicated molecular mass of 40.5 kDa. **Although the S3 nucleotide sequence from several chicken isolates share at least 86% identity, they share only 64% with the NC98 turkey isolate. Interestingly, the S3 nucleotide sequence from a muscovy duck reovirus shares 55% identity with NC98 and 53% identity with chicken isolates.** As observed in other avian reovirus sigma2 protein sequences, a zinc-binding motif and double-stranded RNA binding domain were found within the predicted amino acid sequence of NC98. Phylogenetic analysis of the deduced sigma2 sequence demonstrated that NC98 separated as a distinct virus relative to other avian strains. The results of this study indicate that NC98 is a novel turkey reovirus that shares limited genomic sequence identity to isolates of chicken and duck origin and should be considered a separate virus species within subgroup 2 of the Orthoreovirus genus.

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96187816 Document Number: 96187816. PubMed ID: 8615001. Sequence diversity within the reovirus S3 gene: reoviruses evolve independently of host species, geographic locale, and date of isolation. Goral M I; Mochow-Grundy M; Dermody T S. (Department of Microbiology & Immunology, Vanderbilt University School of Medicine, Nashville, Tennessee 37232, USA. ) VIROLOGY, (1996 Feb 1) 216 (1) 265-71. Journal code: 0110674. ISSN: 0042-6822. Pub. country: United States. Language: English.

AB To better understand genetic diversity of mammalian reoviruses, we studied sequence variability in the S3 gene segment of 17 field-isolate reovirus strains and prototype strains of the three reovirus serotypes. Strains studied were isolated over a 37-year period from different mammalian hosts and geographic locations. A high degree of variability was observed in the nucleotide sequences of the S3 gene, whereas the deduced amino acid sequences of the S3 gene product, sigma NS, were highly conserved. When variability among the S3 nucleotide sequences was analyzed using pairwise comparisons, we found that 5' and 3' noncoding regions were significantly more conserved than the remainder of the gene. This high degree of sequence conservation was also observed within the first 15 nucleotides of the 5' coding region. Phylogenetic analyses showed that multiple alleles of the S3 gene cocirculate and that genetic diversity in the S3 gene does not correlate with host species, geographic locale, or date of

isolation. Phylogenetic trees constructed from variation in the S3 sequences are distinct from those previously generated from sequences that encode attachment protein sigma 1, core protein sigma 2, and outer capsid protein sigma 3, which supports the hypothesis that reovirus gene segments reassort in nature. These findings suggest that reovirus gene segments are well-adapted to mammalian hosts and that reovirus evolution has reached an equilibrium.

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87212972 Document Number: 87212972. PubMed ID: 3579791. A comparison of the pathogenicity of four avian reoviruses in chickens. Kibenge F S; Dhillon A S. AVIAN DISEASES, (1987 Jan-Mar) 31 (1) 39-42. Journal code: 0370617. ISSN: 0005-2086. Pub. country: United States. Language: English.

AB Four avian reoviruses were orally inoculated into 1-day-old chickens to determine pathogenicity, virus persistence in the intestinal tract, and effects on body weight gains. Avian reoviruses Reo-25 and W3-492 belonged to two separate serotypes, and viruses TC 897 and W3-410 were antigenically related to W3-492. Isolate W3-492, which was highly pathogenic, was very rarely recovered from cloacal swabs collected 2 weeks postinoculation, but inoculated chickens gained significantly less weight (P less than or equal to 0.001) than uninoculated controls during the 5-week test study. Isolate Reo-25 persisted the longest in the intestinal tract, and isolates TC 897 and W3-410, of intermediate persistence, had no significant effect on body weights. There was no apparent correlation between serotype and pathotype of avian reoviruses.

89373916 Document Number: 89373916. PubMed ID: 2549941. In vitro and in vivo characterization of avian reoviruses. I. Pathogenicity and antigenic relatedness of several avian reovirus isolates. Rosenberger J K; Sterner F J; Botts S; Lee K P; Margolin A. (Department of Animal Science and Agricultural Biochemistry, College of Agricultural Sciences, University of Delaware, Newark 19717-1303. ) AVIAN DISEASES, (1989 Jul-Sep) 33 (3) 535-44. Journal code: 0370617. ISSN: 0005-2086. Pub. country: United States. Language: English.

AB Pathogenicity, pathogenesis, and antigenic relatedness of four avian reovirus isolates obtained from commercially reared broilers were investigated. Chickens of various ages were inoculated both orally and intratracheally with reovirus. Based on disease signs, mortality, weight depression, tissue lesions, invasiveness, and viral persistence in chickens inoculated at 1 day of age, the isolates were classified as being of **low, intermediate, or high pathogenicity.** The low-pathogenicity isolate (2177) did not cause mortality, weight depression, or clinical disease. The isolate of intermediate pathogenicity (2035) produced low mortality rates (8%), some weight reduction by 7 weeks postinoculation, and microscopic lesions in the intestine and gastrocnemius tendons. The pathogenic isolates, 2408 and 1733, caused severe clinical disease characterized by stunting, feathering abnormalities, mortality as high as 84%, and microscopic lesions in the liver, intestine, pancreas, and/or gastrocnemius tendon. Highly pathogenic isolates also persisted longer in tissues of infected birds and elicited a more prompt and prolonged antibody response. Birds inoculated at 1 day or 1 week of age were more susceptible to reovirus-induced disease than birds inoculated at 2 weeks, suggesting an age-associated resistance. All

isolates produced mortality with equal frequency in embryos. **The isolates characterized were found to be antigenically similar based on cross-neutralization and cross-protection studies.**

90024519 Document Number: 90024519. PubMed ID: 2802316. Antigenic comparisons of selected avian reoviruses by use of the plaque-reduction neutralization assay. Nersessian B N; Lukert P D; Goodwin M A. (Department of Avian Medicine, College of Veterinary Medicine, University of Georgia, Athens 30605. ) AMERICAN JOURNAL OF VETERINARY RESEARCH, (1989 Sep) 50 (9) 1475-80. Journal code: 0375011. ISSN: 0002-9645. Pub. country: United States. Language: English.

AB The antigenic interrelatedness of 3 clone-purified turkey reoviruses (NG-Turkey, 82-88, and NC-TEV) to each other and to 4 clone-purified chicken reoviruses (S1133, Co8, Fahey-Crawley, and avian type 2) was determined in reciprocal cross-neutralization tests, using polyclonal antisera and the plaque-reduction technique. The morphologic features of plaques formed under agar were studied for all 7 reoviruses, and size comparisons for turkey vs chicken isolates were made. All 3 turkey reoviruses (with the exception of NG-Turkey vs Fahey-Crawley chicken reovirus) formed plaques significantly (P less than 0.05) smaller than plaques produced by their chicken counterparts. The 3 turkey reoviruses were closely related to each other and to chicken reovirus CO8. The antigenic differences between turkey reoviruses 82-88 and NC-TEV and chicken reovirus S1133 were slight (minor subtype); however, the latter and NG-Turkey were serotypically distinct. The NG-Turkey and 82-88 turkey reoviruses were more related (minor subtype) to the Fahey-Crawley and avian type 2 chicken reoviruses, than was NC-TEV turkey reovirus (major subtype).

**[For avian reoviruses, there does not seem to exist correlation between plaque morphologic features and antigenic properties.]** p. 1475, rt. col.

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93276557 Document Number: 93276557. PubMed ID: 8503182. Avian reovirus proteins associated with neutralization of virus infectivity. Wickramasinghe R; Meanger J; Enriquez C E; Wilcox G E. (School of Veterinary Studies, Murdoch University, Australia. ) VIROLOGY, (1993 Jun) 194 (2) 688-96. Journal code: 0110674. ISSN: 0042-6822. Pub. country: United States. Language: English.

AB Monoclonal antibodies against two virion proteins of the RAM-1 strain of avian reovirus neutralized virus infectivity; antibody against a 124-kDa (lambda B) protein caused broadly specific neutralization and antibody against a 39-kDa (sigma C) protein caused neutralization of greater type-specificity. The neutralizing activity of the monoclonals also exhibited host cell specificity: antibodies against the lambda B protein inhibited virus infectivity in Vero cells and not chicken kidney cells; one monoclonal antibody against the sigma C protein neutralized virus in only chicken kidney cells, whereas two other monoclonals against the sigma C protein neutralized virus in both Vero and chicken kidney cells but had greater neutralizing activity in Vero cells.

2001254988 Document Number: 21251381. PubMed ID: 11352672. Generation and genetic characterization of avian reovirus temperature-sensitive mutants. Patrick M; Duncan R; Coombs K M.

(Department of Medical Microbiology and Infectious Diseases, University of Manitoba, Winnipeg, Manitoba, R3E 0W3, Canada. ) VIROLOGY, (2001 May 25) 284 (1) 113-22. Journal code: 0110674. ISSN: 0042-6822. Pub. country: United States. Language: English.

AB **There currently is little known about the genetic and biological functions of avian reovirus (ARV), an atypical member of the family Reoviridae and the prototype of all nonenveloped viruses that induce syncytia formation.** In this study, we created ARV temperature-sensitive (ts) mutants by chemical mutagenesis of ARV strain 138. We developed a novel efficiency of lysis (EOL) screening technique and used it and the classical efficiency of plating (EOP) assay to identify **17 ARV ts mutants**. Pairwise mixed infections of these mutants and evaluation of recombinant progeny ts status led to their organization into seven recombination groups. This indicates that these new groups of mutants represent the majority of the ARV genome. To phenotypically characterize the ts mutants, progeny double-stranded RNA (dsRNA) produced at permissive and nonpermissive temperature was measured. Some mutants were capable of dsRNA synthesis at the restrictive temperature (RNA(+)), which indicates the effects of their ts lesions occur after RNA replication. Most mutants were RNA(-), which suggests their mutations affect stages in viral replication that precede progeny genome synthesis. Copyright 2001 Academic Press.

2002004868 Document Number: 20390967. PubMed ID: 10935283. Avian reovirus infections. Jones R C. (Department of Veterinary Pathology, University of Liverpool, Neston, South Wirral, United Kingdom. ) REVUE SCIENTIFIQUE ET TECHNIQUE, (2000 Aug) 19 (2) 614-25. Ref: 102. Journal code: 8712301. ISSN: 0253-1933. Pub. country: France. Language: English.

AB Avian reoviruses are ubiquitous among poultry flocks. Although infection is usually present without disease, reoviruses may occasionally be involved in several disease syndromes of which viral arthritis/tenosynovitis in chickens is the most important, particularly in broiler breeds. While reoviruses have been isolated from turkeys and several other species of birds with various conditions, the presence of the virus has been conclusively linked with disease in relatively few instances. **In chickens in particular, avian reoviruses with a wide spectrum of pathogenic capability have been isolated and several antigenic types exist.** Diagnosis is dependent on the detection of the virus in clinical samples, although the presence of the virus does not necessarily confirm that this is the cause of the disease, except where reoviruses are detected in affected joints. Serological tests are usually difficult to interpret in view of widespread and frequently harmless reovirus infection. The principal approach to control of viral arthritis/tenosynovitis is by vaccination using attenuated vaccines in young birds, followed by inactivated preparations for breeders intended to protect chicks by maternal antibodies. Many vaccines are based on the S1133 strain isolated in the United States of America, but these may not be effective against antigenic variants.